METEOROLOGICAL OFFICE

NEWSLETTER FOR CLIMATOLOGICAL OBSERVERS IN ENGLAND AND WALES

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FOR

CLIMATOLOGICAL OBSERVERS

IN

ENGLAND AND WALES

No. 7

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Produced by:
Met O 1
Observational Requirements
and Practices Branch
Eastern Road
Bracknell
Berkshire
RG12 2UR

EDITORIAL

There are a number of small changes in procedures which I would like to bring to your attention. Firstly the Government has decided to withdraw the existing 'Official Paid' stationery and replace it with a 'Business Reply' system. The change of method should not have a great effect on the way you submit your returns, only the envelope that you use. Further details are given on page 3.

Another change which is shortly to be introduced is a new reprint of Metform 3208B (see page 4 for more information). Briefly the reason for the new form is that the World Meteorological Organisation (who in effect set the guidelines by which all national meteorological services operate) have devised a new meteorological code by which surface (synoptic) weather observations are transmitted from observer to forecaster. The new code form which has essentially been designed to be handled automatically by computer-based telecommunications systems, enables more accurate reports to be made and contains a few extra variables. One of these new variables which is also required by the climatologist is a new form of 'State of Ground'. From 1 January 1982 this is to be reported on Metform 3208B either in one column signifying 'with snow and ice' or in a separate column for 'without snow or ice'. Not really an exciting change but one that will ultimately make the climatologists life a little bit easier.

Finally could I ask that after you have finished reading this Newsletter you pass it on to anyone else on your station who has a hand in making the weather observations or climatological returns. We only have a limited number printed and we would like it to get as wide a readership as possible.

Mike Longworth

KW

THE FINAL CONTRIBUTION FROM MET O 1C TO COMPLETE THE SERIES UNDER THE HEADING "WHAT IS MET O 1"

Met O 1c is sub-divided into several sections, (see separate paragraphs below). All matters concerning the exposure of instruments, choice of sites, collection of data, implementation of World Meteorological Organisation codes and practices, the inspection of rainfall, climatological and auxiliary stations, oil rigs and off-shore platforms and automatic weather stations all come under this part of Met O 1. It also includes the National Solar Radiation Centre and its data processing section.

Climatological

Each year approximately 120 Climatological stations (these include Agro-Met and Health Resort Stations) are visited by members of staff from Met Offices in England and Wales. These visits are not only used to check that the instruments are functioning correctly but to act as a liaison between the Met Office and the observers.

Auxiliary

The Auxiliary stations make frequent weather observations, often throughout the 24 hours, which are translated into the international meteorological code for speedy transmission to forecasting centres and immediate use in day to day weather forecasting for aviation and the general public.

Rainfall

One section of Met O 1c(3) is concerned with the administration of something over 4,000 rainfall stations in England and Wales.

A large part of the day to day contact is between our section and the Water Authorities who these days recruit and finance most of the new rainfall sites as the cost involved in setting up basic standard instruments is now in the region of £100 - a large outlay for the private observer.

We ensure the flow of data from the observers to the data section, Met O 8b, and our 2½ inspectors visit each station notionally once every three years to maintain the contact between the observer and the Met Office and to try to keep the standard of site, observing and instrumentation at a level which is acceptable to both the Met Office and the Water Authorities.

Solar Radiation

Met O 1c(2) is responsible for the computer processing and archiving of solar (shortwave) radiation data (the solar energy available at a particular place and time on the Earth's surface after travelling through its attenuating atmosphere).

The following measurements are currently made at a network of stations within the UK:-

"Global" radiation recorded on a horizontal surface is the total radiation received from all parts of the sky including the sun.

Diffuse radiation (horizontal surface) is that radiation from all parts of the sky excluding the sun.

At a few selected stations only, radiation is measured on surfaces other than horizontal.

Hourly mean radiation is then archived on magnetic tape using either spot minute readings recorded onto cartridges using field loggers (the M.O.D.L.E. system used at Met Offices) or from hourly or daily totals recorded by integrators at various other co-operating stations (eg universities, Water Authorities etc).

Automatic Weather Stations, Off-shore Installations and Motorway Compounds

Met O 1c(3) AWS & Offshore is responsible for site-finding, site management, recruiting and training caretakers for all Automatic Weather Stations on land. He has two Offshore Advisers (1 in Aberdeen and 1 at Bracknell) who make validation observations for offshore Automatic Weather Stations in addition to their primary task of advising on the siting of meteorological instruments on offshore structures and the on-site training of offshore personnel in the making of meteorological observations. The Bracknell based Adviser also has administrative control of all Motorway Maintenance Compounds making plain language observations for the Met Office.

REVISED POSTAL ARRANGEMENTS.

The replacement of Offical Paid pre-addressed envelopes by plain envelopes plus Business Reply labels is now taking place throughout the network.

Arrangements have been made for all stations to receive plain envelopes (HMSO Code 27-32) in their annual issue of Metforms together with a similar number of Business Reply Labels. The latter are printed as a Metform with a Metform No which varies with the Licence addressee, as shown below.

Metform No.	Business Reply Licence Addressee	B-R Postal Code	(Normal Code)
7145	The Director General Meteorological Office (Met O 3a) London Road Bracknell Berkshire	RG12 1BR	(RG12 2SZ)
7148	Senior Meteorological Officer Tyrone House Ormeau Avenue Belfast	BT2 8BR	(BT2 8HH)
7149	The Superintendent Meteorological Office 231 Corstophine Road Edinburgh	EH12 OPL	(EH12 7BB)

Note: The postal codes for Business Reply stationery are different from those used with other mail.

The Meteorological Office has also taken this opportunity to simplify issues of envelopes and apart from weekly returns which are subject to a separate arrangement, stations will generally receive only one size of envelope for all monthly returns, sunshine cards and recorder charts and anemograph rolls.

Changes to Metforms introduced on 1st January 1982

Some changes have been introduced on the latest reprint of the Monthly Return (Metform 3208B). Col 1 is now the first full length column on the left hand side of the sheet which means that all remaining columns have also been re-numbered. An extra column has been introduced for reporting State of Ground. As from 1st January 1982, observers are asked to report State of Ground (i) when there is no snow or ice cover - use Col 53 OR (ii) when there is snow and/or ice present - use Col 54. The highest code figure applicable should be taken from either Table 5 or 6. (see below). Metform 3100 (The Pocket Register) and Metform 3100A (Instructions for completing the Monthly Returns) have been correspondingly amended and copies will be sent on request, though it is considered that the present editions of the two last-named publications can continue to be used until the Pocket Register is full, when the new version will be sent by Met O 1c(3) on request in the usual way.

The reprint of the Monthly Return (Metform 3208B) to be brought into use on 1st January 1982 will be despatched with the annual issue of forms in October 1981.

Stations are requested not to use this new form before the due date. If no other monthly return forms are available for use during the remainder of this year, 1981, please contact Meteorological Office, (Met O 3a), London Road, Bracknell, Berkshire RG12 2SZ, where stocks of the current version are available.

TABLE 5		TABLE 6
CODED FOR 'STATE OF GROUND' (Column 53)	Coded Entry	CODE FOR 'STATE OF GROUND' (Column 54)
Surface of ground dry (without cracks and no appreciable amount of dust or loose sand)	0	Ground predominantly covered by ice.
Surface of ground moist	1	Compact or wet snow (with or without ice) covering less than one-half of the ground.
Surface of ground wet (standing water in small or large pools on surface)	2	Compact or wet snow (with or without ice) covering at least one-half of the ground, but ground not completely covered.
Ground flooded	3	Even layer of compact or wet snow covering ground completely.
Surface of ground frozen	4	Uneven layer of compact or wet snow covering ground completely.
Glaze on ground	5	Loose dry snow covering less than one-half of the ground.
Loose dry dust or sand not covering ground completely.	6	Loose dry snow covering at least one-half of the ground (but not completely).
Thin cover of loose dry dust or sand covering ground completely.	7	Even layer of loose dry snow covering ground completely.
Moderate or thick cover of loose dry dust or sand covering ground completely.	8	Uneven layer of loose dry snow covering ground completely.
Extremely dry with cracks	9	Snow covering ground completely; deep drift.

KW

Headquarters News

Mr F Singleton has taken over from Mr C Flood as Assistant Director of Climatological Services. Mr Flood is now Assistant Director, Central Forecasting.

News of Stations

The following climatological stations have closed since our last newsletter was published:

Station	Authority
Whiteford Burrows, near Swansea	The National Trust
Brighton, Sussex	Brighton Borough Council
Snaizeholme, Yorkshire	Privately run station
Washington, Tyne-Wear	Northumbrian Water Authority
Tregaron, Dyfed	Nature Conservancy

To replace the station at Tregaron, a new station has been opened at Swyddffynnon, Dyfed.

Who's Who in Met O 1

Our readers will have noticed that most of the articles printed in the Newsletter have the authors name appended. We thought you might like to have some brief notes on these contributors, so starting with staff in Met O 1c(3), we begin a Who's Who with:

George Swift

Entered Meteorological Office as Meteorological Assistant in 1947 and after attending Training School, posted to Meteorological Office at RAF station West Malling and later to RAF Biggin Hill. In 1957 promoted to Senior Scientific Assistant and posted to London (Heathrow) Airport, then to the Central Forecast Office, (Met O 2) Bracknell from 1964-1968. Overseas at Meteorological Office, El Adem from 1968-70 and returned to UK to Meteorological Office, RAF Cotlishall, from 1970-75. Posted to Bracknell Met O 1c(3) in 1975 where he continues to assist in maintaining the voluntary climatological station network.

READERS LETTERS

Our Stores Branch (Met O 4) had recently received quantities of night lights for use with the Tilting Siphon Rain Recorder under a new contract and we wished to have a report on the effectiveness of these new night lights. When our observer at Cavendish, Mr M Pizzey asked if some form of heating was available for his rain recorder, we asked if he would try these new night lights. The following is Mr Pizzey's report:

"As promised I have carried out a few experiments with the use of the heaters that you recently sent to me for the T.S.R.

The recorder is rather airtight, but I found that one light burnt successfully by placing matchsticks behind the plastic of the window: their thickness allowed sufficient air to enter. No doubt this could be increased by leaving the door ajar, especially when both heaters were in use.

As you are no doubt aware, the heater has an inner container into which the night light is placed. Using this I found that one light burnt for about 6 hours - which for my use would not be sufficient overnight. I was however able to extend this to nearly 11 hours by using a holder, which I have taken from our food warmer, and placed this inside the normal inner container. With the normal inner container - as supplied - I found that when the wax melted completely, and spread over a large area - 2½" diameter - a lot of unburnt wax was left when the light went out. However, with the use of my additional holder, which has just about the same diameter as the lights - nearly 1½" - the molten wax could not spread and therefore burnt longer and used almost all the wax. This would allow burning throughout a night. I would suggest this, or a smaller inner container as a modification - if possible - although I will be able to use these glass holders from the food warmer.

I noted that there was a certain amount of condensation. I do not know what effect it would have on the gauge after a prolonged period of use in frosty weather - in particular the clock.

The lights burnt very clearly - and even the inside of the heater showed no sign of soot, or similar deposits.

Referring to page 143 of the handbook, I was able to place only one in the correct position in the T.S.R. This was between the collecting chamber and the side - the other would not fit near the pen arm lifting rod. There is however space between the clock drum and siphon tube.

I trust that these comments may be of use to you.

Yours sincerely

Michael Pizzey

We thought that Mr Pizzey's objective report was a good example of what can be achieved by careful observation and attention to detail, and it gives a clear hint that some modification to the night light holder could be usefully introduced. A copy of his report has been circulated to the branches concerned here at Headquarters.

The Editor
Meteorological Office Newsletter.

Date 5 August 1981

Dear 'Sir',

EVERTON 5631

We have viewed with horror our recent supply of sunshine cards for the Equinoxes and have been moved to verse or worse!

Perhaps you could see the correct person/section receives this. Incidently 17 of our cards are of this type.

Yours sincerely

W W Lewis

14 August 1981

Dear Mr Lewis

Thank you for your letter dated 5 August together with a sample sunshine card and descripitive verse.

The matter of peculiar reverse printing of the card was referred to another part of the Met Office for explanation and/or comment. It seems this is the first time we have been notified of such an error. It is thought that the reverse side of the cards (in a sheet) are printed first, then the blue side. The cards are cut according to the blue side printing. If a few summer reverse printed cards accidentally got into the equinox pack, the result would be what you received. At least we think that is what happened.

To help with the situation I enclose 20 cards to replace those which are less than acceptable.

Thank you for the interest you have taken in this.

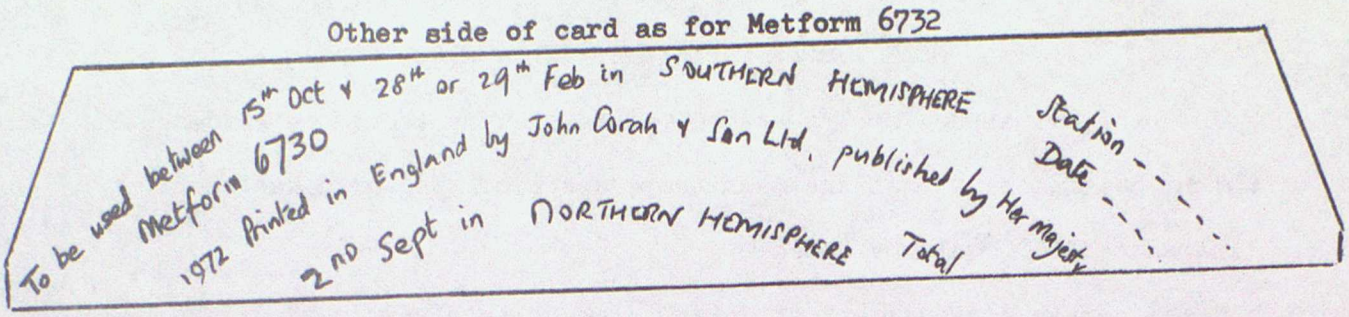
Yours sincerely

Mrs Desiree Allen

We hasten to add that if any other observers have received similar cards, please let us know and we will forward replacements.

Everton Efford enclosed the following equinoctial sunshine card (metform 6732) with the printing for a summer card (metform 6730) on the reverse.

Other side of card as for Metform 6732


To be used between 15th Oct & 28th or 29th Feb in SOUTHERN HEMISPHERE
Station
Date
Metform 6730
1972 Printed in England by John Dorah & Son Ltd. published by Her Majesty
2nd Sept in NORTHERN HEMISPHERE Total

From Bad to Verse

Dear colleagues of the Weather Centre
This verse though short is not meanter
Be a sonnet from the Bard
I take my pen in hand to write
The fact that we have quite
a problem with our sunshine card.
If you observe our little card
you will see that it is very hard
To write ones name & station
so please next time keep on the level
you can do it! You little devil -
Save us exasperation.

Everton Efford

From Verse to Verser

Our thanks to Efford for their attention
To this matter, which, we should mention
Is not our fault, we think the printer -
He's the one who makes the winter,
Summer and equinoctial cards -
Has made a boob which seems quite rare
In printing circles, indeed, anywhere.
So please accept our explanation
Thus saving everyones exasperation.

Met O 1c(3)
Bracknell

MEAN TEMPERATURES OVER THE WORLD

In the April issue, Mr Tyssen-Gee raised a query about the evidence on which the statement that the mean temperature of the world has been falling since 1940 could be based.

While merely commenting that this statement is a very subjective assessment which is by no means universally accepted, I would like to point out that there is a surprising amount of data available over the oceans of the world. Observations of temperature, etc, have been made on ships plying the oceans from as early as 1854 and since the First World War international collaboration has steadily increased until, in recent years, nearly 7000 ships of many nationalities supply data. Thus there is enough data available to enable maps of mean temperature to be drawn with quite a high degree of accuracy.

Maps showing the limits of polar ice caps have also been available from foreign meteorological services, as well as our own, for many years.

Scientific expeditions to the Arctic and Antarctic are also an invaluable source of information.

These observation data, coupled with the knowledge that the temperature of isolated areas, (mountain ranges, desert, etc) is not likely to vary in an opposite sense to that in the more populated areas around it, make it possible to make reasonably accurate estimates of the mean temperature over most areas of the globe. The real difficulty is the interpretation that should be put on the information available. It is most difficult to separate trends from mere fluctuations.

L R Walker

KW

WEATHER IN THE UNITED KINGDOM JANUARY - JUNE 1981

The first three weeks of January were changeable with periods of cold north-westerly winds and wintry showers alternating with brief mild interludes. Whilst snow was frequent over Scotland there was little in the south of England. The last ten days of the month were mostly dry and very mild: the temperature reached 15.5°C on the 29th at Lossiemouth in the Grampian Region. Fog was persistent over parts of southern England and South Wales on the 30th and 31st. February the 1st, a sunny day over much of England and Wales, was notable in the south-east for temperatures rising from morning minima of -3 to -6°C to afternoon maxima of 11 to 15°C. By the 3rd all parts had become changeable From the 10th the remainder of the month was mostly cold with night frost, dry and, at times, sunny. On the 21st and 22nd many places had snow which was heavy over east Wales and the Midlands with 20 cm lying at Birmingham. Rain, with snow over northern hills, on the 28th was followed by milder, brighter weather in the south. Rain, heavy at times, was frequent throughout March. Over England and Wales it was the second wettest March for more than 250 years: only 1947 was wetter. Monthly rainfall was more than twice the average in most areas except the north of Scotland while parts of Lancashire received more than four times the average. There was serious flooding in Devon, Cornwall and South Wales on the 11th. On the 12th 22.2 mm of rain were reported in 11 minutes at Alport Low in Derbyshire during a thunderstorm. Snow fell for a time from mid-Wales and the north Midlands to Scotland on the 5th and in the north early on the 22nd. Apart from over Scotland much of the month was very mild, particularly in the south where there was little or no frost. On the 28th the temperature reached 20.0°C at Ulcombe in Kent. Over England and Wales sunny days were few and central London had its dullest March in over 50 years.

In sharp contrast to March the first three weeks of April were mainly dry and, at times, sunny. Most parts had a few very warm days with temperatures reaching 19 to 22°C between the 9th and the 16th. Early on the 14th severe thunderstorms affected parts of south-eastern England: at Horsham 86.3 mm of rain were recorded in 7 hours and flooding occurred. It then became progressively much colder with night frost and, on the 22nd, snow showers in the north and east. Frost was severe over parts of Scotland on the 23rd when the temperature fell to -10.9°C at Dalwhinnie in the Highland Region. Between the 24th and the 26th a severe snowstorm spread southwards from Northern Ireland, southern Scotland and the north of England to Wales and remainder of England except East Anglia and the south-east where most places had heavy rain with some thunder. Snowfall was heavy, especially over hills, and depths of 10 to 20 cm or more were reported. Considerable drifting occurred and drifts of 3 to 6 mm were reported over the Pennines. The blizzard raged throughout much of the three days in some central districts, notably parts of Derbyshire. During this period the temperature did not rise above 2°C at Watnall, Nottingham and 75 to 100 mm of rain or melted snow were recorded in parts of Lincolnshire and Norfolk with severe flooding. Many roads were blocked, large areas were without electricity, thousands of lambs lost and crops ruined. Comparable late snowstorms occurred in 1908 and 1919. Temperatures returned to normal by the 28th with a rapid thaw. May was changeable throughout. Rain or showers, sometimes thundery, occurred on most days in the south and west although there have been wetter Mays. Only in the north-east was rainfall below average and sunshine above while it was often dull in the south. The first five days of the month were cold with some night frost. Thereafter it was mostly cool in the south and warm in the north. Temperatures of up to 25°C were recorded in Cumbria on the 11th and in the Highland Region on the 12th. On the 27th a severe thunderstorm gave 60.4 mm of rain at Abbotsinch Airport, Glasgow where there was local flooding. Although there was a good deal of dry weather during June, particularly in the south and east, it was never really settled with few warm sunny days. However the temperature reached 27.8°C at the London Weather Centre on the 14th. Violent thunderstorms moved northwards over much of England and Wales late on

the 1st and early on the 2nd. There was flooding in places, especially in the south-east where heavy falls included 65.6 mm at North Heath in West Sussex. Heavy rain was rather persistent in the extreme south-east, especially eastern Kent, from the 24th to the 27th. It was very cool generally at this time. Manston in Kent had a maximum of only 11.5°C on the 26th and there was local ground frost, even in the south, between the 27th and 29th.

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